

**CLAIMS**

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37. (Currently Amended) A method for operating a wireless node, comprising:
  - activating the wireless node in a start up state;
  - automatically determining in the start up state a plurality of operating parameters for the wireless node;
  - configuring the wireless node based on the operating parameters;
  - activating a radio frequency (RF) system for the wireless node;
  - transitioning the wireless node to a learning state;
  - collecting operational data in the learning state and modifying the operating parameters based on the operational data;
  - reconfiguring the wireless node based on the modified operating parameters; and
  - after reconfiguring the wireless node, transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters; and

collecting operational data in the normal operating state and transitioning back to the learning state in response to determining the operational data is outside the predefined parameters.

38. (Original) The method of Claim 37, further comprising negotiating with a plurality of neighboring nodes in the start up state to determine the operating parameters.

39. (Original) The method of Claim 37, further comprising:  
modifying a list of neighboring nodes in the learning state based on the operational data; and  
modifying the operating parameters to account for the modified list of neighboring nodes.

40. (Original) The method of Claim 37, further comprising negotiating with the neighboring nodes to determine the initial set of operating parameters.

41. (Canceled)

42. (Original) The method of Claim 37, further comprising transitioning from the normal operating state back to the learning state in response to a change in neighboring wireless topology.

43. (Original) The method of Claim 37, further comprising transitioning from the normal operating state back to the learning state in response to accepting a modification in operating parameters requested by a neighboring node.

44. (Original) The method of Claim 37, wherein the wireless node is a wireless router.

45. (Previously Presented) The method of Claim 37, wherein the wireless node is a wireless router and neighboring wireless nodes are neighboring wireless routers.

46. (Original) The method of Claim 37, further comprising analyzing the operational data and optimizing the traffic engineering parameters based on the operational data.

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84. (Canceled)

85. (Currently Amended) A wireless node for wireless communications network, comprising:

computer implementable instructions encoded in at least one computer processable medium; and

the instructions operable upon processing to activate the wireless node in a start-up state, to automatically determine in the start-up state a plurality of operating parameters for the wireless node, to configure the wireless node based on the operating parameters, to activate a radio frequency (RF) system for the wireless node, to transition the wireless node to a learning state, to collect operational data in the learning state and modify the operating parameters based on the operational data, to reconfigure the wireless node based on the modified operating parameters, and, after reconfiguring the wireless node, to transition the wireless node to a normal operating state in response to determining the operational data is within predefined parameters; and

the instructions operable upon processing to collect operational data in the normal operating state and to transition back to the learning state in response to determining the operational data is outside the predefined parameters.

86. (Original) The wireless node of Claim 85, the instructions operable upon processing to negotiate with a plurality of neighboring nodes in the start-up state to determine the operating parameters.

87. (Original) The wireless node of Claim 85, the instructions operable upon processing to modify a list of neighboring nodes in the learning state based on the operational

data and to modify the operating parameters to account for the modified lists of neighboring nodes.

88. (Original) The wireless node of Claim 85, the instructions operable upon processing to negotiate with the neighboring nodes to determine the initial set of operating parameters.

89. (Canceled)

90. (Original) The wireless node of Claim 85, the instructions operable upon processing to transition from the normal operating state back to the learning state in response to a change in the neighboring wireless topology.

91. (Original) The wireless node of Claim 85, the instructions operable upon processing to transition from the normal operating state back to the learning state in response to accepting a modification and operating parameters requested by a neighboring node.

92. (Original) The wireless node of Claim 85, wherein the wireless node is a wireless router.

93. (Previously Presented) The wireless node of Claim 85, wherein the wireless node is a wireless router and neighboring wireless nodes are neighboring wireless routers.

94. (Original) The wireless node of Claim 85, the instructions operable upon processing to analyze the operational data and to optimize the traffic engineering parameters based on the operational data.

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108. (Currently Amended) A method for operating a wireless node, comprising:  
activating the wireless node in a start up state;  
automatically determining in the start up state a plurality of operating parameters for  
the wireless node;  
configuring the wireless node based on the operating parameters;  
activating a radio frequency (RF) system for the wireless node;  
transitioning the wireless node to a learning state;  
collecting operational data in the learning state and modifying the operating  
parameters based on the operational data, the operational data comprising at least one of a  
call block percentage, an access failure percentage, a packet error rate and a frame error rate;  
reconfiguring the wireless node based on the modified operating parameters;and  
after reconfiguring the wireless node, transitioning the wireless node to a normal  
operating state in response to determining the operational data is within predefined  
parameters associated with at least one of a call block percentage, an access failure  
percentage, a packet error rate and a frame error rate; and  
collecting operational data in the normal operating state and transitioning back to the  
learning state in response to determining the operational data is outside the predefined  
parameters.

109. (Previously Presented) The method of Claim 37, wherein the predefined  
parameters comprise efficiency thresholds.

110. (Previously Presented) The method of Claim 37, wherein the operating  
parameters comprise coverage parameters determined to maximum radio coverage of the  
wireless node.

111. (Previously Presented) The method of Claim 37, wherein the operating  
parameters comprise interference parameters determined to minimize interference associated  
with the wireless node.

112. (Previously Presented) The method of Claim 37, wherein transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters comprises transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters for a specified period of time.

113. (Previously Presented) A wireless node for wireless communications network, comprising:

computer implementable instructions encoded in at least one computer processable medium; and

the instructions operable upon processing to activate the wireless node in a start-up state, to automatically determine in the start-up state a plurality of operating parameters for the wireless node, to configure the wireless node based on the operating parameters, to activate a radio frequency (RF) system for the wireless node, to transition the wireless node to a learning state, to collect operational data comprising at least one of a call block percentage, an access failure percentage, a packet error rate and a frame error rate in the learning state and modify the operating parameters based on the operational data, to reconfigure the wireless node based on the modified operating parameters, and, after reconfiguring the wireless node, to transition the wireless node to a normal operating state in response to determining the operational data is within predefined parameters associated with at least one of a call block percentage, an access failure percentage, a packet error rate and a frame error rate; and

the instructions operable upon processing to collect operational data in the normal operating state and to transition back to the learning state in response to determining the operational data is outside the predefined parameters.

114. (Previously Presented) The method of Claim 85, wherein the predefined parameters comprise efficiency thresholds.

115. (Previously Presented) The method of Claim 85, wherein the operating parameters comprise coverage parameters determined to maximum radio coverage of the wireless node.

116. (Previously Presented) The method of Claim 85, wherein the operating parameters comprise interference parameters determined to minimize interference associated with the wireless node.

117. (Previously Presented) The method of Claim 85, wherein instructions operable upon processing to transition the wireless node to a normal operating state in response to determining the operational data is within predefined parameters comprise instructions operable upon processing to transition the wireless node to a normal operating state in response to determining the operational data is within predefined parameters for a specified period of time.